

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/421,434	ASADA, TAKAAKI	
	<b>Examiner</b>	<b>Art Unit</b>	
	A. Dexter Tugbang	3729	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 4/19/04.
2. ☒ The allowed claim(s) is/are 3-7,9-13 and 21-28.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

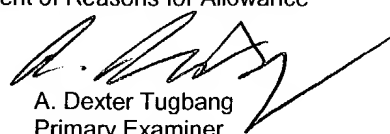
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☒ to Paper No./Mail Date 6/6/01.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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 A. Dexter Tugbang  
 Primary Examiner  
 Art Unit: 3729

### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance.

The prior art does not teach all of the limitations of the claimed invention including connecting a load impedance to the generator, applying a stress signal to the actuator to vibrate the piezoelectric transformer apparatus, where the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus, or not more than about one tenth of an output impedance of the piezoelectric transformer apparatus.

In the previous Office Action (Non-Final Rejection, dated 12/22/03), the examiner acknowledged that the prior art does teach connecting a load impedance to the generator and applying a stress signal to the actuator, in which the claimed value ranges of load impedance would be an obvious matter of design choice. However, the prior art does not teach the specific claimed ranges of "load impedance" relative to the "output impedance" of the piezoelectric transformer apparatus (as recited in the last two lines of each of Claims 4 and 5).

After further consideration by the examiner, these claimed ranges (as recited in Claims 4 and 5) do have a manipulative difference and a clear impact on at least the steps of applying a stress signal to the actuator and identifying a mechanical latent defect. The claimed ranges of "load impedance" relative to the "output impedance" of the piezoelectric transformer apparatus are critical to the applicant's invention in that there are advantages in achieving certain vibration levels with lower level stress signals such as to not damage the piezoelectric transformer apparatus (see specification, page 5). Therefore, it would not have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the prior art by having the load impedance not less than about ten times an output impedance of the piezoelectric

Art Unit: 3729

transformer apparatus, or not more than about one tenth of an output impedance of the piezoelectric transformer apparatus.

Accordingly, Claims 3-7, 9-13 and 21-28 are allowed.

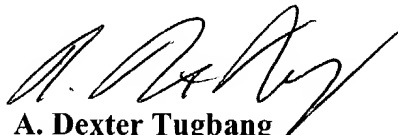
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599.

The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**A. Dexter Tugbang**  
**Primary Examiner**  
**Art Unit 3729**

May 13, 2004